

WHAT IS CLAIMED IS:

1. An XY coordinate measuring stage comprising:
  - a drive unit for a coordinate axis, the drive unit including a friction rod and a motor, the motor including a motor shaft, the motor shaft being in contact with a first side of the friction rod;
  - an applied pressure roller contacting a second side of the friction rod;
  - at least one applied pressure spring configured to urge the applied pressure roller, the friction rod, and the motor shaft against one another with an applied pressure force so that the motor shaft frictionally engages the friction rod so as to convert a rotational motion of the motor into a linear motion of the friction rod;
  - and
  - a compensation device associated with the motor shaft, the compensation device being configured to generate a compensation force against the motor shaft oppositely to the applied pressure force so as to at least partially compensate for the applied pressure force.
2. The XY coordinate measuring stage as recited in claim 1 wherein the applied pressure roller is disposed on an applied pressure roller retaining element, the applied pressure roller retaining element being preloaded with the applied pressure force against the friction rod.
3. The XY coordinate measuring stage as recited in claim 2 wherein:
  - the compensation device includes two closely adjacent load relief bearings disposed on a limitedly movable load relief bearing retaining element, the load relief bearings being preloaded with the compensation force against the motor shaft, a gap between the two load relief bearings defining a V-shaped receptacle for the motor shaft, the movability of the load relief bearing retaining element and the applied pressure force enabling the V-shaped receptacle to center itself against the motor shaft due to; and
  - the motor is disposed on a substantially immovable motor mount.

4. The XY coordinate measuring stage as recited in claim 3 wherein the load relief bearings include at least one of a ball bearing, a self-aligning ball bearing and a needle bearing.

5. The XY coordinate measuring stage as recited in claim 3 wherein the applied pressure roller is disposed with a lateral offset relative to a position of the motor shaft on the friction rod and further comprising a support bearing configured to stabilize the friction rod, the support bearing being disposed on the first side of the friction rod at a distance from the load relief bearings with a lateral offset greater than the lateral offset of the applied pressure roller in a same direction as the lateral offset of the applied pressure roller.

6. The XY coordinate measuring stage as recited in claim 1 wherein the applied pressure roller includes at least one of a ball bearing, a self-aligning ball bearing and a needle bearing.

7. The XY coordinate measuring stage as recited in claim 1 wherein the motor includes at least one of a stepping motor and a DC motor.

8. The XY coordinate measuring stage as recited in claim 1 wherein the motor includes a torque motor.